Contributions towards a Monograph of the Species of *Annelides* belonging to the *Amphinomacea*, with a List of the known Species, and a Description of several new Species (belonging to the group) contained in the National Collection of the British Museum. To which is appended a short Account of two hitherto nondescript Annulose Animals of a larval character.

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(Plates IV., V., VI.)

[Read April 2, 1868.]

In the preceding volumes of the 'Journal of the Linnean Society,' Vol. VIII. pp. 172–202, and Vol. IX. pp. 31–38, I have communicated two papers to the Linnean Society, entitled "Contributions towards a Monograph of the *Aphroditacea*." In most of the systems of arrangement of the *Annelides*, the species of the group *Amphinomacea* succeed those of the *Aphroditacea*; and I now propose following up those papers by some contributions towards a further knowledge of the species of *Amphinomacea* also.

The few species known to Pallas and Gmelin were all arranged in the genera *Aphrodita* and *Terebella*. Bruguière first separated them from *Aphrodita*, and formed a distinct genus to receive them, to which he gave the name *Amphinome*. These worms differ much from the *Aphroditacea*, by the want of those organs called *elytra*, and by the presence of an uninterrupted series of branchiæ, which occur on almost all the segments of the body, and which do not alternate, as in these latter, with cirri. Many of them are very long and present a play of fine iridescent colours; most of them are natives of tropical seas. Since the genus *Amphinome* was formed by Bruguière, great additions have been made, several new genera and even distinct families have been formed; and as our knowledge of the various species which form this group increases, it will no doubt be found necessary to form several more.

Group *AMPHINOMACEA*.

Amphinomeaceæ, *Johnston*.
Amphinomea, *Kinberg*, *Carus*.

Family I. AMPHINOMIDÆ.

Amphinomea, *Blainville*, *Grube*, *Schmarda*, *Carus*, *Ehlers*, *Quatrefages*.
Amphinomæa, *Latreille*.

Amphinomæ, *Savigny, Lamarck.*
Amphinomiens, *Audouin & M.-Edwards.*
Amphinomacea, *Kinberg, Carus, Van der Hoeven.*
Amphinomidæ, *Gosse, Ann. & Mag. Nat. Hist.* 1853.

The animals belonging to this family possess a fleshy-looking caruncle or crest on the back of the buccal or cephalic segment, which is rounded. Branchiæ occur on almost all the segments of the body, are double, but do not alternate with cirri, as in the *Aphroditidæ*. The setiferous tubercles composing the feet are arranged in two rows, and are more or less widely apart. The eyes are four in number. The antennæ, as in the *Aphroditidæ*, have usually been described as five in number—one median, two internal, and two external. Following Kinberg's terminology, in accordance with what I have said in the case of the *Aphroditidæ*, the median single antenna will be designated as the *tentacle*, the internal pair as *antennæ*, and the external pair as *palpi*. Sometimes (*Euphrosyne*) the antennæ and palpi are wanting.

In the 'Öfversigt af Kongl. Vetenskaps-Akademiens Förhandlingar,' 1857, and afterwards in the 'Fregatten Eugenies Resa,' Kinberg (including the genus *Euphrosyne*, which he places in a family by itself) enumerates seven genera; to this number he adds, in the 'Öfv. Kong. Vetens.-Akad.' 1860, another, which, however, may be doubtful. Ehlers adopts the seven genera of Kinberg; but Quatrefages limits the number to four, though he describes one which does not enter into Kinberg's enumeration. Grube, in his 'Familien der Anneliden,' describes four, the same number as Quatrefages, but introduces one to which that author does not give a generic place. Audouin and M.-Edwards only admit three.

Genus I. Amphinome.

Aphrodita, sp., *Pallas.*
Terebella, sp., *Gmelin.*
Amphinome, *Bruguière*, 1789; *Cuvier, M.-Edwards, Règne Anim.* ed. *Crochard; Grube, Schmarda, Kinberg, Carus, Van der Hoeven, Quatrefages.*
Amphinoma, *Blainville*, 1828?; *Audouin & M.-Edwards, Littoral de la France.*
Pleione, *Savigny*, 1828?; *Cuvier, Lamarck, Stannius, Guérin.*

Body long, with the segments rectangular; cephalic lobe small, caruncle small, heart-shaped; antennæ and palpi rising from first segment of body; branchiæ commencing on 3rd or 4th segment

of body; arborescent, branches filiform; *some of the setæ of the dorsal feet subulate, serrate, others linear, smooth; setæ of the ventral feet hooked, thick, short, few in number.* Anus situated on the dorsal side of the lower extremity.

There are no species belonging to this genus found in Great Britain, though one, *Amphinome vagans*, has been described by Savigny as found by the late Dr. Leach on the coast of England. The locality of this species, however, was doubted by Savigny himself at a later period, and the specimen was suspected by him to have been brought to Dr. Leach from the Atlantic Ocean amongst some fuci. This has now, on the authority of Kinberg, been satisfactorily established, specimens having been brought by Dr. Schlör from the South Atlantic. Quatrefages, in his late work on the Annelides, enumerates twenty-seven species, including three which belong to the genus *Notopygos* of Grube, and which are distributed amongst five of the genera of Kinberg. To this list one or two new species have now to be added.

Sp. 1. AMPHINOME ROSTRATA. (Plate IV. figs. 1 *a*, *b*.)

Aphrodita rostrata, *Pallas, Miscell. Zoolog.* 100, tab. 8. f. 14–18, 1766.

Terebella rostrata, *Gmelin, Linn. Syst. Nat.* 3113.

Amphinome tetraedra, *Bruguière, Encyclop. Méthod. art.* Amphinome; *Atlas*, tab. 61. f. 8–12 (copied from *Pallas*); *Cuvier, Dict. Sc. Nat. art.* Amphinome.

Amphinoma tetraedra, *Blainville, Dict. Sc. Nat. art.* Vers, p. 450; *Audouin & M.-Edwards, Ann. Sc. Nat.* tom. xxviii. p. 197, *Hist. Nat. Littoral de la France*, ii. p. 123.

Pleione tetraedra, *Savigny, Syst. des Annélid.* 60; *Lamarck, An. s. Vert.* 1st edit. v. 330, 2nd edit. v. 572; *M.-Edwards, Cuv. Règn. Anim.* ed. *Crochard*, tab. 8 bis. fig. 1, 1*a*–1 *c*.

Amphinome rostrata, *Grube, Famil. der Annelid.* 40 and 122; *Van der Hoeven, Handbuch der Zoologie*, i. 231, 1850; *Carus, Handbuch der Zoologie*, ii. 435, 1863; *Quatrefages, Hist. Nat. des Annélides*, i. 393.

Hab. Indian Seas (*Madras, Mus. Brit.*); Australia (*Mus. Brit.*); Rio Janeiro, *Kinberg.*

I have had figured the setæ or bristles of the dorsal and ventral row of feet (*vide* Plate I. fig. 1). The setæ of the dorsal feet (fig. 1 *a*) are considerably longer than those of the ventral row, are very numerous, capillary, and terminate in a fine point. For some distance below this point they are serrated on the margins. The setæ of the ventral feet (fig. 1 *b*) are strong, curved at the apex, which is rather blunt, and below this are gradually enlarged. They are horny-looking in structure and colour, are simple or not

toothed or serrated, are fewer in number and are much larger than those of the dorsal row.

Sp. 2. Amphinome vagans.

Terebella vagans, *Leach, MS.* (fide *Savigny*).

Pleione vagans, *Savigny, Syst. des Annélides*, p. 60.

Amphinoma vagans, *Blainville, Dict. Sc. Nat. art.* Vers; *Audouin & M.-Edwards, Littoral de la France*, ii. 122.

Amphinome vagans, *Grube, Famil. der Annelid.* 41 & 122; *Kinberg, Öfvers. Kong. Vetensk.-Akad. Förhand.* 1857, p. 12; *Freyatt. Eugen. Resa, Zoologi*, tab. xi. f. 6; *Quatrefages, Hist. Nat. des Annelés*, i. 403.

Hab. South Atlantic Ocean, lat. 5° S., long. 50° W., *Kinberg*.

Sp. 3. ?Amphinome Pallasii.

Pleione tetraedra, *M.-Edwards, Cuvier, Règn. Anim.* ed. *Croch.* tab. 8 bis. f. 1, 1 *a*.

Amphinome tetraedra, *Valenciennes, MS. Coll. du Mus.* fide *Quatrefages*.

Amphinome Pallasii, *Quatrefages, Hist. Nat. des Annelés*, i. 394.

Hab. The Azores and West Indies, *Quatrefages*.

The chief differences between this species and *A. rostrata* appear to be the form of the branchiæ, which are divided into four or five separate branches, each rising from a particular root, and the shape and appearance of the caruncle.

Sp. 4. Amphinome Luzoniæ.

Amphinome Luzoniæ, *Kinberg, Öfvers. af Kong. Vetensk.-Akad. Förhandl.* 1857, p. 12; *Fregatt. Eugen. Resa, Zoologi, Annulat.* tab. xi. f. 7 *a*–7 *x*.

Hab. West coast of Island of Luzon, *Werngren* fide *Kinberg*.

Sp. 5. Amphinome Jukesi, sp. nov. (Plate IV. figs. 2*a*, *b*.)

Corpus utrinque attenuatum, quadratum, e segmentis 50 constans. Caruncula parva, cordiformis. Tentaculum breve, latum. Branchiæ parvæ, ramis subnumerosis. Setæ pedum dorsalium capillares, subulatæ, simplices. Setæ pedum ventralium breves, crassæ, simplices, apice incurvato, obtuso.

Long. tres uncias æquans.

Hab. Raine's Islet, North coast of Australia, *J. B. Jukes* (*Mus. Brit.*); ? China (in bad condition), *T. Lay, Esq.* (*Mus. Brit.*).

Worm about 3 inches in length, consisting of about 50 segments; of a quadrate shape, and narrower at each extremity. Caruncle small, heart-shaped. Tentacle short, flat and rather broad. Branchiæ small, of very short but rather numerous ramifications. Skin of the ventral surface of body coarsely wrinkled.

Feet prominent. Setæ of the upper or dorsal tuft (fig. 2 *a*) finely capillary, terminating in an acute long point. They are nearly quite simple, are indistinctly covered with minute prickles for a short distance below the apex, but have no serrations or teeth on their edge, and are five or six times longer than those of the lower or ventral tuft (fig. 2 *b*), which are short, stout, curved at the apex, which is rather blunt, but quite simple or free from serrations. In the shape of the caruncle and in the bristles of the lower or ventral tuft of the feet this species approaches near to *A. rostrata*, but it differs in the structure of the bristles of the upper or dorsal tuft. In this species they are capillary, finely acuminated, and nearly quite simple, whilst in *rostrata* they are stouter, and finely but distinctly serrated on both margins. The bristles of the lower or ventral tuft, again, in *jukesi*, are shorter, more curved, and not quite so horny in appearance as in *rostrata*. This species, too, is much smaller than *rostrata*, and of even a more quadrate or square shape.

Sp. 6. ?Amphinome carnea.

Amphinome carnea, *Grube et Œrsted, Annulat. Œrsted.* p. 26; *Quatrefages, Hist. Nat. des Annelés*, i .404 (quoted in synonyms, by mistake, *Amphinome rosea*).

Hab. Santa Cruz, *Œrsted.*

Genus II. Hermodice.

Aphrodita, sp., *Pallas.*

Amphinome (part.), *Bruguière et auctorum.*

Pleione, sp., *Grube.*

Hermodice, *Kinberg, Öfvers. af Kong. Vetensk.-Akad. Förhand.* p. 11, 1857; *Fregatt. Eugen. Resa, Zoologi*, p. 32; *Ehlers, Die Borstenwürmer*, 64; *Carus, Handb. d. Zoologie*, ii. 435.

Body long, with the segments rectangular; cephalic lobe large. Caruncle large and lobed on each side. Branchiæ commence on the second segment. *Dorsal setæ, some subulate and serrate, others linear and smooth; ventral setæ serrated at the apex.*

Sp. 1. Hermodice carunculata. (Plate IV. figs. 3 *a*, *b*.)

Millepeda marina Amboinensis, *Seba, Thes. rar. Nat.* tom. i. p. 131, tab. 81. no. 7, 1734–1765.

Nereis gigantea, *Linnæus, Syst. Nat.* ed. 12. tom. i. part 2. p. 1086. no. 10, 1766.

Aphrodita carunculata, *Pallas, Miscell. Zool.* pp. 102–106, tab. viii. f. 12–13, 1766.

Terebella carunculata, *Gmelin, Linn. Syst. Nat.* tom. i. part 6. Vermes, p. 3113. no. 5, 1789.

Amphinome carunculata, *Bruguière, Enc. Méth. art.* Amphinome, p. 46, *Atlas*, tab. 60. f. 6–7 (copied from *Pallas*), 1789; *Cuvier, Dict. des Sc. Nat. art.* Amphinome, tom. ii. p. 72; *Grube, Famil. der Annelid.* pp. 40 & 122; *Quatrefages, Hist. Nat. des Annelés*, i. 395.

Amphinoma carunculata, *Blainville, Dict. Sc. Nat. art.* Vers; *Audouin & M.-Edwards, Littoral de la France*, ii. 123.

Pleione carunculata, *Savigny, Syst. des Annélides*, p. 61; *Lamarck, An. s. Vert.* 1st edit. v. 330, 2nd edit. v. 572; *Cuvier, Règne Anim.* iii. 199, ed. *Crochard, Annélides*, tab. 8. f. 4, 4A; *Grube, De Pleione carunculatâ*; *Treviranus, Beob. aus der Zoologie*, p. 53, tab. xi.

Hermodice carunculata, *Kinberg, Öfvers. Kongl. Vetensk.-Akad.* 1857, p. 13; *Carus, Handbuch der Zoologie*, ii. 435.

Hab. Seas of America, West Indies, St. Vincent's, West Indies, *Landsdown Guilding* (*Mus. Brit.*), West Indies, *Coll. Reid* (*Mus. Brit.*), St. Thomas's, West Indies (*Mus. Brit.*), Mediterranean, *Miller* (*Mus. Brit.*). The setæ of the dorsal row of feet (fig. 3*a*) are longer than those of the ventral feet, are very finely capillary, especially fine at the apex, and are all quite simple. The setæ of the ventral feet (fig. 3*b*) are numerous, fine, nearly capillary, but slightly curved at the apex, which is rather obtuse. For a short distance below the apex there are several very fine teeth or serræ, about 12 in number, on its inner margin; and a very short distance below these there is a prominent tooth on the inner edge.

Sp. 2. HERMODICE STRIATA.

Hermodice striata, *Kinberg, Öfvers. af Vetensk.-Akad. Förhandl.* 1857, p. 13; *Fregatt. Eugen. Resa*, tab. 12. f. 8, 8B–8G; *Carus, Handbuch der Zoologie*, ii. 435.

Hab. Eimeo, Pacific Ocean, among corals, near the shore, *Kinberg*.

Sp. 3. HERMODICE NIGROLINEATA, sp. nov.

Segmenta buccalia quinque. Branchiæ parvæ, sessiles, ramis paucis filiformibus. Caruncula magna, corrugata. Setæ pedum dorsalium omnes lineares, læves; setæ pedum ventralium bifidæ, ramo altero, brevissimo, dentem simulante, ramo altero longiore, apice breviuncinato, intus serrato. Dorsum corrugatum, segmenta singula, ad infimam partem, linea nigra notata. Tentaculum, antennis et palpis multo longior. Cirrus pedis dorsalis elongatus, gracilis.

Long. 2 unc. et 3 lin., lat. 3 lin.

Hab. Coast of Asia Minor, *R. M'Andrew.* On the submarine telegraph-cable, near Alexandria. Madeira, *Mr. Masson* (*Mus. Brit.*).

The tentacle is much longer than the antennæ or palpi, both of which latter are small. The caruncle resembles, in comparative size and in its corrugated character, that organ in *H. carunculata*, extending to the fourth segment of the body. The cirrus of the dorsal feet is longer than the setæ and rather slender. The setæ of the dorsal feet are all slender, linear, and quite smooth; those of the ventral feet are rather stouter; a short distance from the point, which is slightly curved or hooked, there is a tooth or short branch springing from it, and the space of the longer branch between this tooth and the point is rather strongly serrate on the inner side. The branchiæ are very small, and consist of only a a few filiform branches, from five to eight in number. The skin of the back is somewhat corrugated, and each segment has at its lower portion, near the junction of the following segment, a black line running across it, which is more strongly marked in the centre. Some of the specimens we possess were collected by Mr. M'Andrew on the coast of Asia Minor: one was taken from the submerged telegraph-cable, near Alexandria, when hauled up for examination; and others were collected by Mr. Masson in the sea of Madeira.

Sp. 4. Hermodice didymobranchiata.

Amphinome didymobranchiata, *Baird, Transact. Linn. Soc.* tom. xxiv. tab. 45. f. 1–7, 1864.

Hab. Island of Ascension, *Watson* (*Mus. Brit.*).

Sp. 5. Hermodice sanguinea.

Amphinome sanguinea, *Schmarda, Neue wirbell. Thiere*, i. 2. pp. 140–141. fig. xylogr., tab. 34. f. 289; *Quatrefages, Hist. Nat. Annelés*, i. 405.

Hab. Jamaica, *Schmarda.*

Sp. 6. ? Hermodice Savignyi.

Amphinome Savignyi, *Brullé, Expd. de Morée, Zool.* tom. iii. p. 398. tab. 53. f. 1A–C; *Audouin & M.-Edwards, Littor. de la France*, ii. 124; *Quatrefages, Hist. Nat. Annelés*, i. 402.

Hab. Metana, coast of Sicily, *Brullé.*

Genus III. Eurythoë.

Eurythoë, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* p. 13, 1857; *Fregatt. Eugen. Resa, Zoologi*, p. 32; *Ehlers, Die Borstenwürm.* 64; *Carus, Handb. d. Zool.* ii. 435.

Pleione (part.), *Savigny*.

Amphinome (part.), *auctorum*.

Body long, with the segments rectangular; caruncle of middling size and minutely lobed. *Dorsal setæ, some linear, subarticulate, others subbifid, serrate, with one branch very short, rarely linear; ventral setæ bifid.*

Sp. 1. Eurythoë alcyonia.

Pleione alcyonia, *Savigny, Syst. des Annélides*, p. 62; *Annélides gravés*, tab. 2. fig. 3; *Lamarck, An. s. Vert.* 1st ed. v. 331, 2nd ed. v. 572; *Blainville, Atlas Dict. Sc. Nat.* tab. vii. f. 2, 2A (copied from *Savigny*); *Guérin, Icon. Règne An. Annélides*, p. 4 (text); *Cuvier, Règne Anim.* iii. 199; *M.-Edwards, Cuv. Règn. Anim.* ed. *Crochard*, tab. 8 bis. f. 2 (copied from *Savigny*).

Pleyone alcyonia, *Guérin, Icon. R. An. Annélides*, tab. 4. f. 2, 2A–2c.

Amphinome alcyonia, *Blainville, Dict. Sc. Nat. art.* Vers; *Audouin & M.-Edwards, Littoral de la France*, ii. 124, tab. 22. f. 5 (copied from *Savig.*).

Amphinome alcyonia, *Grube, Famil. der Annelid.* pp. 40 & 122; *Quatrefages, Hist. Nat. des Annelés*, i. 401.

Hab. Red Sea, *Dr. Rüppell* (*Mus. Brit.*).

I refer this species to the genus *Eurythoë*. The caruncle is somewhat lobed at the edges. The setæ of the dorsal feet are, some linear, subarticulated in several places, others linear and subbifid, the terminal branch long and slender, whilst a third set are stouter and serrated. The setæ of the ventral feet are considerably stouter than the dorsal setæ, and are all bifid and quite smooth.

Sp. 2. Eurythoë complanata. (Plate IV. figs. 4*a*, *b*.)

?Nereis tentaculis binis tripartitis, &c., *Brown, Hist. of Jamaica*, p. 395, tab. 39. f. 1 *.

Aphrodita complanata, *Pallas, Miscell. Zool.* 110, tab. 8. f. 19–26, 1766.

Terebella complanata, *Gmelin, Linn. Syst. Nat.* i. part 6. Vermes, p. 3113. no. 4.

Amphinome complanata, *Bruguière, Encycl. Méthod. art.* Amphinome, *Atlas*, tab. 60. f. 8–13 (copied from *Pallas*); *Grube, Famil. der Annelid.* pp. 40 & 122; *Quatrefages, Hist. Nat. des Annelés*, p. 403.

Amphinoma complanata, *Blainville, Dict. Sc. Nat. art.* Vers; *Audouin & M.-Edwards, Littoral de la France*, ii. 124.

Pleione complanata, *Savigny, Syst. des Annélides*, p. 62; *Cuvier, Règne Anim.* iii. 199; *Lamarck, An. s. Vert.* 1st ed. v. 331, 2nd edit. v. 573.

* Brown confounds this worm with the *Teredo* or shipworm! As Pallas conjectures, the specimen he had for inspection might probably have been taken burrowing in one of the holes made by the *Teredo*.

Hab. St. Vincent's, West Indies, *Guilding* (*Mus. Brit.*); St. Thomas's, West Indies, *Sallée* (*Mus. Brit.*, in bad condition); Eastern Seas (*Mus. Brit.*); Raine's Island, and Sir C. Hardy's Island, north coast of Australia, *Jukes* (*Mus. Brit.*); Zanzibar, *Dr. Kirk* (*Mus. Brit.*).

Notwithstanding the difference of habitat between the West Indies, north coast of Australia, and Zanzibar, I can see nothing to separate the two sets of specimens, except the greater size of the Australian. The specimens we possess from the Eastern seas are of about the same size as those from St. Vincent's, West Indies. The setæ of the dorsal and ventral feet are very nearly similar to those of the preceding species. Those of the dorsal row (fig. 4*a*) are numerous, capillary, but curiously and distinctly toothed or serrate on the edge. The apex is sharp-pointed, the teeth or serræ extend from it to some distance below it, are about 26 in number, and are harpoon-shaped. The setæ of the ventral feet (fig. 4*b*) are much fewer in number, and are stouter and shorter than those of the dorsal row. They are bifurcated near the apex and are quite simple or free from teeth or serrations.

Sp. 3. Eurythoë Hedenborgi.

Eurythoë Hedenborgi, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 13.

Hab. —— ? From the collection of Dr. Hedenborg, *Kinberg.*

Sp. 4. Eurythoë syriaca.

Eurythoë syriaca, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 13; *Carus, Handbuch der Zoologie.* ii. 435.

Hab. Coast of Syria, *Hedenborg* fide *Kinberg.*

Sp. 5. Eurythoë chilensis.

Eurythoë chilensis, *Kinberg, Öfvers. af Kong. Vetensk.-Akad. Förhandl.* 1857, p. 13; *Fregatt. Eugen. Resa, Zoologi, Annulat.* tab. xii. f. 9A–9X.

Hab. Near Valparaiso, depth of 7 fathoms, *Kinberg.*

Sp. 6. Eurythoë capensis.

Eurythoë capensis, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 13; *Fregatt. Eugen. Resa, Zool. Annulat.* tab. xii. f. 10B, 10F, 10G.

Hab. Cape of Good Hope, *Wahlberg* fide *Kinberg.*

Sp. 7. Eurythoë pacifica.

Eurythoë pacifica, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.*

1857, p. 14; *Fregatt. Eugen. Resa, Zoologi, Annulat.* tab. xii. f. 11A–11x; *Carus, Handb. der Zool.* ii. 435.

Hab. Pacific Ocean, near Eimeo and Foua Islands, amongst corals, *Kinberg.*

Sp. 8. EURYTHOË CORALLINA.

Eurythoë corallina, *Kinberg, Öfvers. Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 14; *Fregatt. Eugen. Resa, Zoologi, Annulat.* tab. xii. f. 12B–12U.

Hab. Pacific Ocean, amongst corals on shores of islands Eimeo, Tahiti, and Oahu near Honolulu, *Kinberg.*

Sp. 9. EURYTHOË KAMEHAMEHA.

Eurythoë Kamehameha, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 14; *Fregatt. Eugen. Resa, Zool. Annulat.* tab. xii. f. 13c, f. g.

Hab. Harbour of Honolulu, amongst dead corals at 2 fathoms, *Kinberg.*

Sp. 10. EURYTHOË SMARAGDINA.

Amphinome smaragdina, *Schmarda, Neue wirbell. Thiere,* i. 2. p. 140. fig. xylogr., tab. 34. f. 288; *Quatrefages, Hist. Nat. des Annelés,* i. p. 405.

Hab. Jamaica, *Schmarda.*

Sp. 11. ?EURYTHOË LATISSIMA.

Amphinome latissima, *Schmarda, Neue wirbell. Thiere,* i. 2. p. 141. fig. xylogr., tab. 34. f. 291, 291A; *Quatrefages, Hist. Nat. Annelés,* i. 405.

Hab. Ceylon, *Schmarda.*

Sp. 12. EURYTHOË LONGICIRRA.

Amphinoma longicirra, *Schmarda, Neue wirbell. Thiere,* i. 2. p. 142. fig. xylogr., tab. 34. f. 292; *Quatrefages, Hist. Nat, Annelés,* p. 405.

Hab. Ceylon, *Schmarda.*

Sp. 13. EURYTHOË INDICA.

Amphinome indica, *Schmarda, Neue wirbell. Thiere,* i. 2. p. 142. fig. xylogr., tab. 35. f. 294; *Quatrefages, Hist. Nat. Annelés,* i. 405.

Hab. Ceylon, *Schmarda.*

Sp. 14. EURYTHOË JAMAICENSIS.

Amphinome (Notopygos?) Jamaicensis, *Schmarda, Neue wirbell. Thiere,* i. 2. p. 143. fig. xylogr.; *Quatrefages, Hist. Nat. Annelés,* i. 406.

Hab. Jamaica, *Schmarda.*

Sp. 15. EURYTHOË ENCOPOCHÆTA.

Amphinome encopochæta, *Schmarda, Neue wirbell. Thiere,* i. 2. p. 143. fig. xylogr., tab. 35. f. 293; *Quatrefages, Hist. Nat. Annelés,* i, 406.

Hab. Ceylon, *Schmarda.*

Sp. 16. Eurythoë macrotricha.

Amphinome macrotricha, *Schmarda, Neue wirbell. Thiere*, i. 2. p. 144. fig. xylogr., tab. 34. f. 290; *Quatrefages, Hist. Nat. Annelés*, i. 406.

Hab. Jamaica, *Schmarda.*

Sp. 17. ? Eurythoë clavata. (Plate IV. figs. 5 *a*, *b*.)

Corpus depressum, subquadratum, ad extremitates utrinque attenuatum, e segmentis 55 s. 56 constans. Caruncula ovalis, mediocris, segmenta tria prima tegens. Setæ pedum dorsalium ad apicem curvatæ, dilatatæ seu clavatæ, simplices; setæ pedum ventralium bifurcæ, læves. Branchiæ parvæ, ramis ramulisque numerosis.

Long. tres uncias æquans.

Hab. —— ? (*Mus. Brit.*).

Worm about 3 inches in length, of a flatly subquadrate shape, and consisting of about 55 or 56 segments. Body of a very dark colour; bristles of feet, especially those of ventral or lower tuft, light or yellowish coloured, and tipped at the points with dark brown. The caruncle is rather large, of an oval shape, the edges not rolled up, and extending over the first three segments.

The specimen under observation is thickest and broadest in the middle; narrowed at each extremity, but becoming suddenly contracted about the thirty-fourth segment, and appearing much narrower at the posterior than at the anterior extremity.

The setæ of the upper or dorsal tuft (fig. 5 *a*) are slightly curved and obtuse or rather club-shaped at the extremity, which is simple and not toothed. Those of the lower or ventral tuft (fig. 5 *b*) are bifurcate, the rami not serrated, and the points rather blunt.

The branchiæ are small, numerously ramified, and of a dark colour.

Only one specimen of this species has occurred, and we have no history as to its habitat.

Genus IV. Lycaretus.

Lycaretus, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1867, p. 53.

Body long, depressed, segments rectangular; cephalic lobe rounded, caruncle elongate, rather smooth; eyes, tentacle, an-

tennæ, and palpi as in *Amphinome*. Branchiæ commencing from the third segment. Dorsal cirri on each side single. *Setæ of dorsal feet capillary, somewhat geniculate, some of them serrated; setæ of ventral feet bifid, the points unequal, smooth.*

Sp. 1. Lycaretus neocephalicus.

Lycaretus neocephalicus, *Kinberg, l. c.* p. 56.

Hab. West Indies, Bartholomew Island, *Lovén &c.*

Genus V. Lirione.

Lirione, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* p. 12, 1857; *Fregatt. Eugen. Resa, Zoologi*, p. 32; *Ehlers, Die Borstenwürm.* p. 64; *Carus, Handbuch der Zoologie*, ii. 435.

Amphinome, pars, *auctorum.*

Body elongate, with the segments oval and large; cephalic lobe rounded, elevated. Antennæ rising from the cephalic lobe, palpi from the first segment of body. Caruncle elongate. Branchiæ placed near the apex of the dorsal feet. Dorsal cirri, two on each side. *Setæ all alike, bifid, smooth.*

Sp. 1. Lirione splendens.

Lirione splendens, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 12; *Fregatt. Eugen. Resa, Zool. Annulat.* tab. xi. f. 4A–4x; *Carus, Handbuch der Zoologie*, ii. 435.

Hab. Near the Island of Tahiti amongst corals, at a foot depth, *Kinberg.*

Sp. 2. Lirione maculata.

Lirione maculata, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* p. 12; *Fregatt. Eugen. Resa, Zool. Annulat.* tab. xi. f. 5B–5x.

Hab. Coast of islands near Panama, *Kinberg.*

Sp. 3. Lirione Rayneri, sp. nov. (Plate IV. figs. 6, *a*, *b*.)

Corpus elongato-fusiforme, utrinque attenuatum, e segmentis triginta duobus seu triginta tribus constans. Caruncula magna, sextum segmentum attingens, crista media alta laminaque laterali majuscula (transverse valde plicatis) ornata. Cirri dorsales bini. Tuberculi setiferi dorsales basi linea nigra circumdati. Branchiæ a segmento quinto orientes, breves, ramis filiformibus, basi nigris, divisæ. Setæ dorsales et ventrales conformes, apice bifido, simplices; setæ ventrales breviores. Anus dorsalis, segmento vicesimo secundo situs. Appendices anales breves, obtusæ, binæ.

Long. uncias duas et quartam partem æquans.

Hab. Reefs off the north-east coast of Australia, *Rayner* (*Mus. Brit.*).

Body somewhat elongately fusiform, narrower at each extremity, about 2¼ inches long, and composed of 32 or 33 segments. Beneath or on the ventral surface it is of a light brown colour, but the back is violet and marked with a number of white lines crossing each other in various directions. The caruncle is large, extending to the sixth segment of the body. It is apparently composed of three portions, which are almost separate from each other. The centre portion, or crest, is detached from the lateral portions throughout its whole length, except at the two extremities. All three portions are strongly wrinkled. The setiferous tubercles are prominent, the dorsal being encircled at the base with a black ring. The branchiæ arise from the fifth segment, are placed upon the base of the dorsal setiferous tubercles, and are composed of a tuft of short cirriform branchlets or filaments, about from 20 to 55 in number. The anus is placed on the back, on the twenty-second segment, and in the centre of a rounded fleshy caruncle. The setæ or bristles of both dorsal and ventral tufts (fig. 5, *a*, *b*) are long, capillary, and sharply bidentate a little way below the apex, which is simple, the tooth being sharp and erect. The ventral setæ (fig. 5, *b*) are rather shorter than those of the dorsal tuft. The dorsal cirri are double,—one, the most dorsal, is short and subulate, about the length of the branchial filaments; the other, the most ventral in position, is much longer, and composed of two joints, the basal much the stouter of the two. The ventral cirri are single, and about the same length as the most dorsal of the dorsal cirri.

Only one specimen was brought to the Museum. It was taken by F. Rayner, Esq., Surgeon of H.M.S. 'Herald,' to whom I have dedicated this fine species.

Genus VI. Linopherus.

Linopherus, *Quatrefages.*

Amphinome, sp. *Peters, Grube.*

Body linear. Head as in *Amphinome.* Caruncle very small. Feet in two rows, apart. Branchiæ cirriform, the cirri of which they are composed being either simple or bifurcate.

Sp. 1. Linopherus incarunculatus.

Amphinome incarunculata, *Peters*; *Grube, Beschr. neuer od. wenig bekannt. Annelid. in Troschel, Archiv der Naturg.* 1860, p. 77.

Linopherus incarunculata, *Quatrefages, Hist. Nat. Ann.* i. 407.
Hab. West Africa, *Peters, Grube.*

Genus VII. Notopygos.

Notopygos, *Grube, Famil. der Annelid.* 121, 1851; *Beschr. neu. od. wenig bekannt. Annelid., in Archiv der Naturg.* 1855, p. 93; *Annulat. Œrsted.* p. 27; *Ehlers, Die Borstenwürmer*, p. 64.
Notopygus, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 11; *Fregatt. Eugen. Resa, Zoologi*, p. 32 (char. emend.); *Carus, Handb. d. Zool.* ii. 435.
Amphinome, sp., *Quatrefages.*

"Body of an oval shape, with large oval segments; cephalic lobe depressed; antennæ and palpi rising from first segment of body; caruncle elongate; branchiæ cirrated, placed at the apex of the dorsal feet; cirrus of dorsal feet single, *setæ of dorsal feet bifid, the longer branch lightly serrated inwardly*, anal appendages double." Char. emend., *Kinberg.*

Sp. 1. Notopygos crinitus.
Notopygos crinita, *Grube, Famil. der Annelid.* p. 40; *Neuer od. wen. bekannt. Annelid. Troschel, Archiv*, tom. xli. 1855, p. 93.
Notopygus crinitus, *Kinberg, Öfvers. af Kongl. Vet.-Akad. Förhand.* 1857, p. 11; *Fregatt. Eugen. Resa, Zoolog. Annulat.* tab. xi. f. 3A–3X; *Carus, Handb. der Zoologie*, ii. 435.
Amphinome crinita, *Quatrefages, Hist. Nat. Annelés*, tom. i. p. 403.
Hab. Near Island of St. Helena, in 80 fathoms, *Kinberg.*

Sp. 2. Notopygos ornatus.
Notopygos ornata, *Grube, Annulat. Œrsted.* p. 27.
Amphinome ornata, *Quatrefages, Hist. Nat. Annelés*, tom. i. p. 404.
Hab. Puntarenas, in Costa Rica, *Grube.*

Species of Amphinomidæ *which cannot as yet be referred to their proper genera.*

Sp. 1. Amphinome æolides.
Pleione æolides, *Savigny, Syst. des Annélides*, p. 62; *Lamarck, An. s. Vert.* 1st edit. v. 330, 2nd edit. v. 572.
Amphinome æolides, *Blainville, Dict. Sc. Nat. art.* Vers; *Audouin & M.-Edwards, Littoral de la France*, i. 124.
Amphinome æolides, *Grube, Famil. der Annelid.* pp. 40 & 122; *Quatrefages, Hist. Nat. Annelés*, i. 397.
Hab. West Indies, *Quatrefages.*

Sp. 2. Amphinome abhortoni.

Amphinome abhortoni, *Valenciennes, MS.?*; *Quatrefages, Hist. Nat. Annelés*, i. 397.

Hab. Isle of France, *Quatrefages.*

Sp. 3. Amphinome Bruguieresi.

Amphinome Bruguieresi, *Quatrefages, Hist. Nat. Annelés*, i. 398.

Hab. Seychelles, *Quatrefages.*

Sp. 4. Amphinome formosa.

Amphinome formosa, *Valenciennes, MS.*; *Quatrefages, Hist. Nat. Annelés*, i. 399.

Hab. Sandwich Islands, *Quatrefages.*

Sp. 5. Amphinome denudata.

Amphinome denudata, *Quatrefages, Hist. Nat. Annelés*, i. 400.

Hab. New Caledonia, *Quatrefages.*

Sp. 6. Amphinome Gaudichaudi.

Amphinome Gaudichaudi, *Valenciennes, MS.*; *Quatrefages, Hist. Nat. Annelés*, i. 400.

Hab. Paëta, *Quatrefages.*

Sp. 7. Amphinome pallida.

Amphinome pallida, *Quatrefages, Hist. Nat. Annelés*, i. 401.

Hab. —— ?

Sp. 8. Amphinome paupera.

Amphinome paupera, *Grube & Œrsted, Annulata Œrstediana*, p. 26; *Quatrefages, Hist. Nat. Annelés*, i. 404.

Hab. Valparaiso, *Œrsted.*

Sp. 9. Amphinome stilifera.

Amphinome stilifera, *Grube, Besch. neuer oder wenig bekannt. Ann.* p. 78; *Quatrefages, Hist. Nat. Annelés*, i. 406.

Hab. —— ?

Sp. 10. Amphinome pelagica.

Amphinome pelagica, *Quoy & Gaimard, MS. in Mus. Paris*; *Audouin & M.-Edwards, Littoral de la France*, note at p. 124; *Grube, Famil. der Annelid.* p. 41.

Hab. Amboina, *Quoy & Gaimard.*

Genus VIII. Chloiea.

Aphrodita, sp., *Pallas.*

Terebella, sp., *Gmelin.*

Amphinome sp., *Bruguière, Cuvier.*

Chloeia, *Savigny, Cuvier, Blainville, Lamarck, Audouin & M.-Edwards, Risso, Grube, Carus, Van der Hoeven, Ehlers, Schmarda, Quatrefages, Kinberg.*

Body oval in shape, with the segments oval; antennæ and palpi rising from the first segment; caruncle elongate; *branchiæ bipinnate, placed at some distance from the apex of the feet*; cirrus of dorsal foot single; *setæ of dorsal feet serrate*; *setæ of ventral feet bifid*; anal appendages double. Eyes, as in *Amphinome*, 4 *.

Sp. 1. Chloeia flava.

Aphrodita flava, *Pallas, Miscell. Zoolog.* 97, tab. viii. f. 7–11.

Terebella flava, *Gmelin, Linn. Syst. Nat.* i. part 6. p. 3114; *?Krusenstern, Atlas*, tab. 88. f. 14–16.

Amphinome capillata, *Bruguière, Encyc. Méthod. art.* Amphinome, *Atlas*, tab. lx. f. 1–5 (copied from *Pallas*); *Cuvier, Règn. Anim.* iii. 198.

Chloeia capillata, *Savigny, Syst. des Annélides*, p. 58; *Lamarck An. s. Vert.* 1st edit. v. 329, 2nd edit. v. 570; *Audouin & M.-Edwards, Littoral de la France*, ii. 120, tab. ii B. f. 11–12; *M.-Edwards, Cuv. R. An.* ed. *Croch.* tab. ix. f. 1; *Van der Hoeven, Handbuch der Zoologie*, i. 231; *Carus, Handbuch der Zoologie*, ii. 435.

Amphinome flava, *Cuvier, Dict. Sc. Nat. art.* Vers; *Blainville, Atlas, Dict. Sc. Nat.* tab. vii. figs. 1–1A–1C.

Chloeia flava, *Blainville, Dict. Sc. Nat. art.* Vers; *Grube, Famil. der Annelid.* p. 40; *?Quatrefages, Hist. Nat. des Annelés*, i. 386; *Kinberg, Fregatt. Eugen. Resa, Zoolog. Annulat.* tab. xi. f. 1B–1X.

Chloeia incerta, *Quatrefages, Hist. Nat. Annelés*, i. 398. no. 2.

Hab. Chinese and Indian Seas (*Mus. Brit.*); Australia (*Mus. Brit.*).

The *Chloeia incerta* of Quatrefages belongs undoubtedly to this species, the only reason for asserting the *Chloeia flava* of Pallas is not the *Chloeia capillata* of M.-Edwards being the difference of the setæ of the feet. We possess, in the collection of the British Museum, nine specimens of what appears to me to be the true *Chloeia flava* of Pallas, the setæ of the feet of which *all*

* Savigny, who established the genus *Chloeia*, distinctly asserts that the species have only *two* eyes. In this he has been followed, apparently without examination, by Lamarck, Audouin and M.-Edwards, Risso, Grube, Van der Hoeven, Schmarda, and Quatrefages. Pallas, Gmelin, Cuvier, and Carus do not notice the number, but Kinberg has recognized the fact that they are endowed with *four*. This I have also ascertained to be the case in *Chloeia flava, tumida, pulchella, parva*, and *spectabilis*. Kinberg has distinctly figured *four* eyes in *C. flava* and *candida*; and I have little doubt four is the normal number of eyes in this genus.

agree with those of *Chloeia capillata* figured by M.-Edwards in figs. 1D, E of pl. 9, in the Crochard edition of the 'Règne Animal,' and by Kinberg in the 'Fregatt. Eugen. Resa,' plate xi. fig. 1, H, G. The description of these setæ by Savigny, "celles des rames supérieures simplement aiguës, les autres terminées par un pointe distincte," though agreeing better with Quatrefages's description of these organs, is not sufficiently precise to determine the question of the distinction of the two species. If the species quoted as *Chloeia flava* by Quatrefages be distinct, I think it ought to be formed into a different species and deserves better the name of *incerta*.

Sp. 2. ? Chloeia Quatrefagesii.

Chloeia flava, *Quatrefages* (without any of the synonyms quoted by him), *Hist. Nat. des Annelés*, i. 386. no. 1.

Hab. Seas of China, *Quatrefages*.

Sp. 3. Chloeia candida.

Chloeia candida, *Kinberg, Öfvers. Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 11; *Fregatt. Eugen. Resa, Zool. Annulat.* tab. xi. f. 2, 2A–2X; *Carus, Handbuch der Zoologie*, ii. 435.

Hab. A small species coming from the Island of St. Thomas (?West Indies), *Werngren* fide *Kinberg*.

Sp. 4. Chloeia furcigera.

Chloeia furcigera, *Quatrefages, Hist. Nat. des Annelés*, i. 309.

Hab. Mauritius, *Quatrefages*.

The specimen from which Quatrefages drew up the description of this species is in such bad condition, he says, that he can only draw attention to the setæ of the feet, which are bifid in both dorsal and ventral feet.

Sp. 5. ? Chloeia inermis.

Chloeia egena?, *Grube, Beschr. neuer od. wenig bekannt. Ann.* 1855, p. 91.

Chloeia inermis, *Quatrefages, Hist. Nat. Annelés*, tom. i. p. 389.

Hab. New Zealand, *Quatrefages*.

Sp. 6. Chloeia egena.

? Chloeia egena, *Grube, Beschr. neu. od. wen. bekannt. Ann. in Archiv d. Naturg.* 1855, p. 91; *Quatrefages, Hist. Nat. Annelés*, tom. i. p. 391.

Hab. ——? (in the *Museum of St. Petersburg*), *Kinberg*.

This species is doubtful, according to Quatrefages, and, he says, may prove to be identical with his *C. inermis* (*vide* Sp. 13 of this list).

Sp. 7. Chloeia fucata.

Chloeia fucata, *Quatrefages, Hist. Nat. Annelés,* tom. i. p. 390.

Hab. Mascate, *Quatrefages.*

Sp. 8. Chloeia nuda.

Chloeia nuda, *Quatrefages, Hist. Nat. Annelés,* tom. i. p. 390.

Hab. Amboina, *Quatrefages.*

Sp. 9. Chloeia venusta.

Chloeia venusta, *Quatrefages, Hist. Nat. Annelés,* tom. i. p. 391.

Hab. Palermo, *Quatrefages.*

Sp. 10. Chloeia viridis.

Chloeia viridis, *Schmarda, Neue wirbell. Thiere,* tom. ii. p. 144. fig. xylogr., A–X. tab. 35. f. 295–305; *Quatrefages, Hist. Nat. Annelés,* tom. i. p. 392.

Hab. Coast of Jamaica, *Schmarda.*

Sp. 11. Chloeia tumida, sp. nov. (Plate IV. figs. 7 *a–d.*)

Corpus tumidum, album, e segmentis triginta et sex constans. Oculi parvi. Caruncula mediocris, plicata. Branchiæ bipinnatæ, ab segmentó quarto orientes. Oculi parvi. Cirri dorsales longiores quam ventrales, et tenuiores. Cirri anales crassi, breves. Setæ pedum dorsalium breviores quam ventralium, et parum numerosæ, paululum infra apicem tumidæ, extus prope apicem unidentatæ, intus valde serratæ (interdum simplices). Setæ pedum ventralium longæ capillares, bifidæ, ramo interno brevissimo, dentem, simulante, ad apicem simplices.

Long. uncias sex et dimidiam æquans; lat. (setis inclusis) uncias duas æquans.

Hab. India, *Leadbeater* fide *Leach* (*Mus. Brit.*).

The body of this worm is very tumid or swollen, quite white in all its parts and destitute of any markings or colour. It is much longer than broad, in length being $6\frac{1}{2}$ inches, in breadth (including the setæ) 2 inches, and is composed of 36 segments. The skin or dorsal surface is wrinkled. The caruncle is moderately large and plicate, and the branchiæ are bipinnate, and commence from the fourth segment of the body. The eyes are very small. The dorsal cirri are longer and more slender than the ventral; the anal cirri are very stout, rather short, and of about the same thickness throughout their length. The bristles of the ventral or lower row of feet (fig. 7 *d*) are long, white, capillary, terminating in a rather sharp point, bifid, the inner ramus very short, more resembling a tooth, springing from

a little below the apex, and are simple, not serrated. The bristles of the dorsal or upper row of feet (fig. 7 *a*, *b*, *c*) are fewer in number than those of the ventral row; they are curiously swollen out a little below the apical part, which terminates in a sharp point with a small tooth on its outer edge a very short distance beneath the point, and, with the exception of those of the second or third feet (fig. 7 *b*), they have a row of serrations or teeth on the inner margins, the teeth being about 16 in number, slightly curved downwards or harpoon-shaped.

We possess only one specimen of this species, which formed part of the collection of the late Dr. Leach, and, on the authority of Mr. Leadbeater, who supplied him with the specimens, is said to come from India.

Sp. 12. Chloeia parva, sp. nov. (Plate IV. figs. 8 *a*, *b*.)

Corpus breve, angustum, utrinque attenuatum, e segmentis viginta et sex constans, atratum, segmentis omnibus medio dorsi linea nigra longitudinali et maculis atris transversis, signatis. Branchiæ parvæ, nigræ. Caruncula elongata, plicata, crista media linea nigra notata. Cirri dorsales nigri. Cirri ventrales pallidi. Setæ pedum dorsalium capillares, acute punctatæ, margine interno serratæ, serræ deorsum spectantes. Setæ pedum ventralium capillares, bifidæ, ramus internus brevissimus, dentem simulans.

Long. unciam unam æquans.

Hab. ——? (*Mus. Brit.*).

This worm is small, only about 1 inch in length, and narrow, attenuated at each extremity, especially posteriorly, the posterior extremity being much narrower than the anterior, and produced into a sharpish point. The body is composed of about 26 segments, is of a dark colour, and peculiarly marked on the back with black spots. Along the centre of the back, on each segment, there is a dark mark in the shape somewhat of the Roman T, or rather the Greek Υ (upsilon). On each side there is also a dark mark which runs across each of the segments, and another encircling the ventral setiferous tubercle or foot. The branchiæ are small, simply branched, and are of a dark colour. The caruncle is elongate and much wrinkled or pleated, and its crest is surmounted with a black, waved line. The setæ of the dorsal tuft (fig. 8 *a*) are capillary, sharp-pointed, and serrated or toothed a little below the apex with harpoon-shaped teeth. The setæ of the ventral tuft (fig. 8 *b*) are very slender, capillary, and

shortly bifurcate near the apex, the short branch more resembling a tooth. The dorsal cirri are of a black colour; the ventral are pale. The anal cirri are of a light colour, short, stout, and cylindrical. The habitat of this well-marked species is unknown. The animal, at first sight, resembles a species of *Hipponoa*.

Sp. 13. Chloeia spectabilis, sp. nov.

Corpus rotundato-fusiforme, utrinque attenuatum, e segmentis triginta et quatuor constans, pallidum, albo punctatum. Caruncula elongata, angusta, quintum segmentum attingens. Cirri dorsales subulati, purpurei. Cirri ventrales albi. Setæ pedum dorsalium et ventralium capillares, lineares, simplices.

Long. uncias duas et dimidiam æquans.

Hab. New Zealand, *Capt. Stokes* (*Mus. Brit.*).

Worm about $2\frac{1}{2}$ inches long. Body rounded-fusiform in shape, thicker in the centre and narrower at each extremity, but the posterior extremity narrower than the anterior; composed of about 34 segments. It is of a light colour, and the whole body above and below is dotted all over with numerous small, white, round spots varying in size. The caruncle is long and narrow, extending over 4 or 5 segments. Ventral cirri white; dorsal cirri long and subulate and of a beautiful purple colour. Branchiæ simply branched. Bristles of both ventral and dorsal feet capillary, slender and simple, those of the dorsal tuft longer and stouter than the ventral.

This species, in its habitat and structure of the setæ of the feet, approaches the two species "*inermis*" of Quatrefages, and "*egena*" of Grube, but differs from both in minor details.

Sp. 14. Chloeia puchellla, sp. nov.

Corpus depressiusculum, fusiforme, e segmentis triginta duobus seu triginta et quinque constans. Dorsum rugosum, in medio segmentorum macula angusta nigra notatum. Oculi parvi. Caruncula elongata, crista linea nigra insignis. Branchiæ pinnatifidæ, ramusculis atratis. Cirri dorsales elongati, subulati, atrati: cirri ventrales albi; cirri anales breves, cylindrici. Setæ pedum dorsalium infra apicem serratæ; setæ ventrales bifidæ, simplices.

Long. uncias duas æquans; lat. (setis inclusis) unciam dimidiam æquans.

Hab. Reefs off the north-east coast of Australia, *F. M. Rayner* (*Mus. Brit.*).

The body of this worm is rather narrow, of a depressed fusiform shape, about 2 inches long, and half an inch broad, including the setæ of feet. Segments of body from 32 to 35. Eyes small, the anterior pair larger than the posterior. Caruncle long, extending over a considerable number of segments, rugose, the summit of the crest marked with a waved dark line. Branchiæ finely and delicately pinnatifid, the main branch of a light colour, the branchlets very dark. Setæ of feet yellow; those of the ventral feet forming a tuft considerably larger than that of the dorsal, and in both formed like that of those of *Chloeia flava*—those of the dorsal tuft having their apex for a little way down on the inner side serrated with harpoon-shaped teeth, while those of the ventral tuft are furcate near the apex and simple. The back or dorsal surface of the body is wrinkled, of a pale delicate flesh-colour, and is marked on the middle of each segment, between the branchiæ, with a distinct rather broad line of a very dark colour—not square-shaped, as in *C. flava*, but extending in length to more than half the breadth of the segment. The dorsal row of setiferous tubercles is also marked with a dark line running partly across them just above the tuft of setæ. The ventral cirri are nearly white and finely pointed; the dorsal cirri are of a very dark colour, and are longer and more slender than the ventral. The anal cirri are short and cylindrical, and rather stout.

Var. *a. pallida.*

We are indebted to Mr. Jukes for a specimen of a worm which I consider to be only a variety of *Chloeia pulchella.* It is nearly colourless in all parts except the peculiar marks on the dorsal surface of the segments. The setæ of the feet are of a lighter yellow colour, but their structure is the same as those of *pulchella.* The worm is a little larger, and the colourless branchiæ are rather larger also than those of the type specimens.

Hab. Raine's Islet, North Australia, *J. B. Jukes* (*Mus. Brit.*).

Uncertain Species.

?Chloeia rupestris, *Risso, Hist. nat. Eur. mérid.* iv. 425.

This species evidently belongs to another family altogether. Quatrefages says it most probably belongs to the genus *Eunice.* M.-Edwards says he cannot refer it to any genus of the family Amphinomidæ, as Risso describes it as possessing *jaws*, a character which does not belong to any species of the family.

Genus IX. Euphrosyne.

Euphrosyne, *Savigny, Syst. des Annélides*, p. 63, 1809?; *Audouin & M.-Edwards, Grube, Johnston, Kinberg, Sars, Carus, Van der Hoeven, Schmarda, Quatrefages, Ehlers.*

Euphrosine, *Cuvier, R. An.*; *Lamk. An. s. Vert.*; *M.-Edwards, Cuv. R. A.* ed. *Croch.*; *Blainville.*

Euphrosina and Euphrosyna, *Audouin & M.-Edwards, Littoral de la France*; *Œrsted.*

Antennæ and palpi wanting. Cephalic lobe compressed. Caruncle elongate. Eyes two. Branchiæ ramose, several in each segment. Body oval, with the segments rounded. Anus placed on the dorsal aspect, with a longitudinal orifice and two appendages. Feet crest-shaped, placed transversely. *All the setæ bifid, those of dorsal tuft smooth, those of ventral tuft with the inner side of the rami serrated.*

A. *With both cirri and branchiæ on the sides of the segments.*

I. *Branchiæ all ramose.*

Sp. 1. Euphrosyne laureata.

Euphrosyne laureata, *Savigny, Syst. des Annélides*, p. 63, *Annélides gravés*, tab. 2. fig. 1; *Grube, Fam. der Anneliden*, pp. 41 & 122; *Quatrefages, Hist. Nat. Annelés*, i. 409; *Ehlers, Die Borstenwürmer*, p. 65; *Audouin & M.-Edwards, Littoral de la France*, tom. ii. p. 127.

Euphrosine laureata, *Cuvier, R. An.* tom. iii. p. 199; *Blainville, Dict. Sc. Nat. art.* Vers, p. 453, *Atlas*, tab. 8. f. 1, 1a–1c (copied from *Savigny*); *Guérin, Icon. R. An.* tab. iv. bis. f. 1; *Van der Hoeven, Handbuch der Zoologie*, i. 231; *Carus, Handbuch der Zoologie*, ii. 435; *Lamarck, An. s. Vert.* 1st edit. v. 332, 2nd edit. v. 574; *M.-Edwards, Cuv. R. An.* ed. *Croch.* (texte), tab. 8. f. 3–3a (copied from *Savigny*); *Quatrefages, Hist. Nat. des Annelés*, tom. i. p. 409 (in list of synonyms).

Hab. Red Sea, *Savigny.*

Sp. 2. Euphrosyne myrtosa.

Euphosyne myrtosa, *Savigny, Syst. des Annélides*, p. 64, *Annélides gravés*, tab. ii. f. 2; *Grube, Famil. der Anneliden*, pp. 41 & 122; *Ehlers, Die Borstenwürmer*, p. 66; *Quatrefages, Hist. Nat. Annelés*, i. 409.

Euphrosyna myrtosa, *Audouin & M.-Edwards, Ann. Sc. Nat.* tom. xx. tab. iii. f. 6–8; *Littoral de la France*, ii. 128.

Euphrosine myrtosa, *Cuvier, R. An.* iii. 199; *Blainville, Dict. Sc. Nat. art.* Vers, p. 453; *Cuvier, Iconograph. R. Anim.* tab. iv. bis. f. 2;

Lamarck, An. s. Vert. 1st edit. v. 332, 2nd edit. v. 574; *Quatrefages, Hist. Nat. Annelés*, i. 409.

Hab. Gulf of Suez, Red Sea, *Savigny*.

Sp. 3. EUPHROSYNE FOLIOSA.

Euphrosyne foliosa, *Audouin & M.-Edwards, Ann. Sc. Nat.* tom. xxviii. p. 201, tab. ix. f. 1–15, *Littoral de la France*, ii. 126, tab. ii B. f. 1–14; *M.-Edwards, Cuv. R. An.* ed. *Crochard* (plate), tab. viii. f. 2; *W. Thompson, Ann. & Mag. Nat. Hist.* 2nd ser. tom. iii. p. 355, 1849.

Euphrosine foliosa, *M.-Edwards, Cuv. R. An.* ed. *Croch.* (description of plate); *Quatrefages, Hist. Nat. Annelés*, i. 408 (in synonyms).

Euphrosyne foliosa, *Grube, Famil. der Annelid.* 41 & 122; *Gosse, Ann. & Mag. Nat. Hist.* 2nd ser. tom. xii. p. 384, 1853; *Johnston, Catal. British Non-parasit. Worms*, p. 126; *Carus, Handb. der Zool.* ii. 435; *Ehlers, Die Borstenwürmer*, p. 65; *Quatrefages, Hist. Nat. Annelés*, i. 408.

Hab. Great Britain and Ireland (*Mus. Brit.*); coast of France, *M.-Edwards*.

Sp. 4. EUPHROSYNE POLYBRANCHIA.

Euphrosyne polybranchia, *Schmarda, Neue wirbell. Thiere*, ii. 136, tab. xxxiii. f. 264–287; *Ehlers, Die Borstenwürmer*, p. 65.

Hab. Cape of Good Hope, *Schmarda*.

Sp. 5. EUPHROSYNE CAPENSIS.

Euphrosyne capensis, *Kinberg, Öfvers. af Kongl. Vetensk.-Akad. Förhandl.* 1857, p. 14; *Ehlers, Die Borstenwürmer*, 56.

Hab. Cape of Good Hope, *Kinberg*.

Sp. 6. EUPHROSYNE MEDITERRANEA.

Euphrosyne mediterranea, *Grube, Trosch. Archiv f. Naturgesh.* 1863, tom. xxix. p. 38, tab. iv. f. 2; *Ehlers, Die Borstenwürmer*, p. 66; *Quatrefages, Hist. Nat. Annelés*, i. 409.

?Euphrosyne myrtosa, var. *Ehlers, l. c.*

Euphrosyne mediterranea, *Quatrefages, l. c.* (in synonyms).

Hab. Villa Franca, *Grube*.

Sp. 7. EUPHROSYNE RACEMOSA.

Euphrosyne racemosa, *Ehlers, Die Borstenwürmer*, pp. 66, 67, 80, tab. i. f. 1–11, tab. ii. f. 1, 2.

Hab. Quarnero, Adriatic, *Ehlers*.

Sp. 8. EUPHROSYNE ARMADILLO.

Euphrosyna armadillo, *Sars, Riese i Lofot. og Finmark, Nyt. Magaz. f. Naturvidensk. i Christiania*, 1851, p. 211; *Forhandling. i Vidensk.-Selskab. i Christiania*, 1860, p. 55.

Euphrosyne armadillo, *Ehlers, Die Borstenwürmer*, p. 66.
Hab. Manger, near Bergen, *Sars*.

II. *Some of the branchiæ only ramose.*

Sp. 9. EUPHROSYNE BOREALIS.

Euphrosyna borealis, *Œrsted, in Kröyer Naturhist. Tidssk.* 1842, 113; *Grœnland. Annulat. dorsibranch.* p. 18, 1843, tab. ii. f. 23–27; *Sars, Reise i Lof. Finmark, Nyt Magaz. for Naturvidensk. i Christiania*, 1851, p. 211; *Forhandl. i Vidensk.-Selskab. i Christiania*, 1860, p. 56; *Ray Soc. Reports*, 1845, 324.

Euphrosyne borealis, *Johnston, Cat. Non-parasit. Worms*, p. 127; *Carus, Handb. der Zool.* ii. 435; *Ehlers, Die Borstenwürmer*, p. 66; *Quatrefages, Hist. Nat. Annelés*, i. 408; *Stimpson, Mar. Invert. Grand Manan*, p. 36?; *Grube, Famil. der Annelid.* pp. 41 & 122.

Hab. Britain? (*Mus. Brit.*), Greenland, *Œrsted*.

B. *Segments with cirri only.*

Sp. 10. EUPHROSYNE CIRRATA.

Euphrosyne cirrata, *Sars, Forhandl. i Vidensk.-Selskab. i Christiania*, 1860, p. 56.

Euphrosyne cirrata, *Ehlers, Die Borstenwürmer*, p. 67.

Hab. Manger, near Bergen, *Sars*.

Family II. HIPPONOIDÆ.

Amphinomea (part.), *Grube, Schmarda, Ehlers, Quatrefages*.
Amphinomiens (part.), *Audouin & M.-Edwards*.
Amphinomæ (part.), *M.-Edwards in Lamarck*.
Hipponacea, *Carus, Handb. der Zoologie*.

The animals belonging to this family are distinguished from the Amphinomidæ by being destitute of a caruncle or crest on the buccal or cephalic segment, and by having their feet disposed in only one row. Branchiæ are present on the dorsal segments of the body, and are disposed either in tufts, rows, or groups. Some of the genera (*Hipponoë*) possess tentacles, antennæ, and palpi; others (*Lophonota, Didymobranchus*) are destitute of these appendages. The eyes are four (*Hipponoë, Lophonotus*), placed near each other, small.

Genus I. HIPPONOË.

Hipponoë, *MM. Audouin & M.-Edwards, Ann. Sc. Nat.* 1st series,

tom. xx. p. 156, 1830; *Cuvier, M.-Edwards, Guérin, Grube, Van der Hoeven, Carus, Schmarda, Ehlers, Quatrefages.*

Hipponoa, *Audouin & M.-Edwards, Littoral de la France,* ii. p. 128; *M.-Edwards in Lamarck, Costa, Ann. Sc. Nat.* 1841.

Hipponoë, *Audouin & M.-Edwards, Littoral de la France,* ii. p. 117.

The worms belonging to this genus do not appear to have been studied with care. Their eyes are four in number, though M. Quatrefages distinctly asserts that the animals have none. ("Caput oculis destitutum," *l. c.* p. 410.) MM. Audouin and Milne-Edwards do not mention their eyes at all; nor does there seem to be any indication of them in any of the figures of the only species described by them. On the abdominal surface, where, in the Amphinomidæ, the second or ventral series of feet are placed, are a series, on each side of the body, of what Audouin and M.-Edwards called *pores*. No notice is taken by these authors of any appendages connected with them; and M. Quatrefages, in his description of the only species known to him, calls these pores "depressions," and says, they are "destitute of setæ or hooks." ("In abdomine remi inferi loco, depressio quædam setis uncinisque destituta," *l. c.* p. 410.)

These pores or depressions appear to me to be in reality organs of apprehension, for at the bottom of each are a number of short fleshy looking hooked or slightly uncinate spines. The setæ of the feet are all alike, subulate, slender, simple. They possess only one cirrus.

Sp. 1. Hipponoë Gaudichaudi.

Hipponoë Gaudichaudi, *Audouin & M.-Edwards, Ann. Sc. Nat.* 1st series, tom. xx. p. 159, tab. iii. f. 1–5, 1830; *Cuvier, Règne Animal,* 2nd edit. tom. iii. p. 199, 1830; *Guérin, Iconog. R. An.* (texte), *Annélides,* p. 8, tab. iv. bis. f. 3–3A–3D (copied from *Ann. Sc. Nat.*); *M.-Edwards, Règne Anim.* edit. *Crochard,* tab. viii. f. 4, 4A–B, *Littoral de la France,* ii. 239 (note); *Grube, Famil. der Annelid.* p. 41; *Van der Hoeven, Handb. der Zoologie,* i. 231; *Carus, Handb. der Zoologie,* ii. p. 435; *Quatrefages, Hist. Nat. Annelés,* i. 410; *Valenciennes, MS. in Mus. Paris.*

Hipponoa Gaudichaudi, *M.-Edwards, in Lamk. An. s. Vert.* 2nd edit. tom. v. p. 574.

Hab. Port Jackson, *Gaudichaud* fide *Audouin & M.-Edwards*; Madeira, and amongst barnacles on a log of timber near ?Madeira, *Masson* (*Mus. Brit.*); concealed in valves of *Lepas fascicularis*, in lat. S. 16° 0′, long. W. 5° 0′, *Capt. Baker* (*Mus. Brit.*).

Head small; eyes four, small, placed near to each other. Tentacle

larger than antennæ or palpi. Body attenuated at each extremity and composed of about 32 segments. Branchiæ rather small, arbusculiform. Setæ of feet all alike, slender, subulate, simple, rather long. The organs (*pores* of Audouin & M.-Edwards) placed on each of the abdominal segments, on each side, are composed of a depression with a somewhat corrugated raised border round it, and having in the centre of the depression a series (5 to 7) of short fleshy-looking uncinate setæ or spines.

Are these organs organs of apprehension? The specimens of Audouin and M.-Edwards are simply mentioned as having been found at Port Jackson by M. Gaudichaud. The specimens which we possess in the Collection of the British Museum are described as having been found (some) amongst barnacles on a log of ship timber, others as having been concealed in the valves of *Lepas fascicularis* in lat. 16° 0′ S., long. 5° 0′ W., and a third set as from Madeira. By means of these organs I think it probable that they can attach themselves to other bodies partly as parasites. If this be the case, it is curious that in many of the specimens we possess there should be attached to their under surface small animals which are doubtless parasitic to them.

Sp. 2. Hipponoë Cranchii, sp. nov. (Plate VI. figs. 7–14.)

In the Museum Collection are two specimens, collected by Mr. Cranch in the Congo expedition, which appear to me to be undescribed.

The worm is only about half an inch long. The body is fusiform in shape, attenuated at either extremity, and composed of about 20 segments. The head is small, but the mouth is very large compared with the size of the animal. The tentacle, antennæ, and palpi are similar to those of the preceding species. Eyes could not be detected. The branchiæ are larger and are composed of more branchlets than those of *Gaudichaudi*. The setæ of the feet are short, simple, and setaceous. The organs (? of apprehension) on the abdominal segments are much larger than in the preceding species, and the fleshy setæ are much longer.

The size of the worm, the comparative size of the mouth, the branchiæ, and the organs of apprehension, and the shortness of the setæ of the feet distinguish this species very well. The organs (? of apprehension) appear to be more produced than in any of the specimens we possess of *Gaudichaudi*, and the setæ are even more hooked at the point, thus confirming my opinion

that these organs are retractile, and that, at times at least, they serve the purpose of prehension.

Genus II. Lophonota.

Lophonota, *Costa, Ann. Sc. Nat.* 2nd ser. xvi. 1841; *Grube, Schmarda, Carus, Ehlers, Quatrefages.*

This genus, proposed by Costa for an Annelid found by him in the Bay of Naples, does not seem to have been seen by any other author since his time. It is characterized by having no caruncle, and nothing in the place of tentacle or antennæ. It has four eyes, at least it possesses four small black spots in the place where the eyes ought to be. The feet are disposed in one row only, the setæ are subulate and simple, and the branchiæ are arbuscular, the filiform branches extended in a transverse series across the back. The animal is furnished with a retractile proboscis, which is surrounded with a sort of fringe.

Sp. 1. Lothonota Audouinii.

Lophonota Audouinii, *Costa, Ann. Sc. Nat.* 2nd series, tom. xvi. p. 271, 1841, tab. xiii. f. 1, 1A–1D; *Grube, Famil. der Annelid.* p. 41; *Carus, Handb. der Zoologie*, ii. p. 235; *Quatrefages, Hist. Nat. Annelés*, i. p. 411.

Hab. Bay of Naples, *Costa.*

Genus III. Didymobranchus.

Didymobranchus, *Schmarda, Neue wirbell. Thiere*, 1863; *Carus, Handb. der Zool.*; *Quatrefages.*

This genus has not apparently been seen by any other observer than Schmarda, who has described two species. It is distinguished by the absence of caruncle and antennæ, by having one row of feet, but having both a dorsal and ventral cirrus and the branchiæ pectinated and disposed each in two separate fascicles.

Sp. 1. Didymobranchus cryptocephalus.

Didymobranchus cryptocephalus, *Schmarda, Neue wirbell. Thiere*, ii. p. 138, tab. xxxiii. f. 262; *Quatrefages, Hist. Nat. des Annelés*, i. p. 411.

Hab. Near Valparaiso, *Schmarda.*

Sp. 2. Didymobranchus microcephalus.

Didymobranchus microcephalus, *Schmarda, Neue wirbell. Thiere*, ii. 139, tab. xxxiii. f. 263; *Quatrefages, Hist. Nat. Annelés*, i. 411.

Hab. Coast of Chili, *Schmarda.*

Genera belonging to the Amphinomacea, *their true position in which it is difficult to ascertain in consequence of their being too indistinctly described.*

Genus I. Spinther.

Spinther, *Johnston*, 1845; *Van der Hoeven, Carus, Grube, Ehlers.*
Cryptonota, *Stimpson*, 1843; *Carus, Quatrefages.*
Oniscosoma, *Sars, Grube, Carus.*

Sp. 1. Spinther oniscoides.

Spinther oniscoides, *Johnston, Ann. & Mag. Nat. Hist.* tom. xvi. p. 9, tab. ii. f. 7–14, *Catalogue of British Non-parasitical Worms*, p. 127, tab. xiv. (vi. in text), f. 7–14; *Van der Hoeven, Handb. der Zoologie*, i. 232; *Carus, Handbuch der Zoologie*, ii. 435; *Grube, Beschr. neuer od. wen. bekannt. Annel. in Archiv f. Naturg.* 1860, p. 74.

Cryptonota citrina, *Stimpson, Marine Invert. of Grand Manan (Smithsonian Contributions to Knowledge)*, p. 36, tab. ii. f. 27; *Quatrefages, Hist. Nat. Annelés*, i. 412.

Hab. Belfast Bay, *Thompson*; Grand Manan, *Stimpson.*

Sp. 2. Spinther miniaceus, *Grube, Beschr. n. od. wen. bekannt. Annel. in Archiv für Naturg.* 1860, p. 74, tab. iii. f. 3, 3a–b; *Carus, Hand. der Zool.* ii. 436.

Hab Trieste, *Grube.*

Sp. 3. Spinther arcticus.

Oniscosoma arcticum, *Sars, Reise i Lofoten og Finmarken, in Magazin for Naturvidensk.* 1850, p. 210; *Grube, Archiv für Naturg.* 1860, p. 75; *Carus, Handb. der Zoologie*, ii. 436.

Hab. Norway, *Sars.*

Johnston first considered the genus *Spinther* to belong to the Aphroditacea, but afterwards he says it is more allied to *Euphrosyne.* In his 'Catalogue of British Non-parasitical Worms,' he says it is so similar to the *Euphrosyne borealis* in external appearance, that the identity of the two species may be questioned, p. 127. Sars considers his genus *Oniscosoma* might belong to *Euphrosyne*, only that it wants branchiæ; and Carus and Ehlers both place it amongst the *Amphinomidæ.*

Genus II. Aristenia.

Aristenia, *Savigny, Syst des Annélides*; *Blainville, Audouin & M.-Edwards, Grube, Schmarda, Ehlers, Quatrefages.*

Sp. 1. ARISTENIA CONSPURCATA.

Aristenia conspurcata, *Savigny, Syst. des Annélid.* p. 64; *Annélides gravés*, tab. ii. f. 3, 41–44; *Blainville, Dict. Sc. Nat. art.* Vers, p. 453, *Atlas*, tab. viii. f. 2–2A (copied from *Savigny*); *Audouin & M.-Edwards, Littoral de la France*, p. 130. tab. iiB. f. 13–14; *Grube, Famil. der Annel.* p. 41; *Quatrefages, Hist. Nat. Annelés*, i. 412.

Hab. Red Sea, *Savigny*.

Only one species of this genus has as yet been described. Savigny considers the genus as belonging to the Amphinomacea, and in this belief he is followed by Blainville, Carus, Grube, Schmarda and Ehlers; but Quatrefages only admits it a place in this group provisionally. MM. Audouin and M.-Edwards think it comes nearer to *Trophonia* (*Siphonostomum*). Its general appearance, as represented by Savigny in his plate, with the existence of branchiæ on its dorsal surface, might readily enough bring it amongst the *Amphinomidæ*.

Genus III. ZOTHEA.

Zothea, *Risso, Audouin & M.-Edwards, Schmarda, Grube, Ehlers.*

Sp. 1. ZOTHEA MERIDIONALIS.

Zothea meridionalis, *Risso, Hist. nat. Europ. mérid.* tom. iv. p. 425; *Audouin & M.-Edwards, Littoral de la France*, ii. 130; *Grube, Famil. der Annelid.* p. 41.

Hab. Maritime Alps, ?Nice, *Risso*.

Audouin and Milne-Edwards, in noticing this genus, say they cannot refer it to any portion of the Amphinomacea, as it is described by Risso as possessing horny mandibles. Though vaguely described, it has been nevertheless placed in this group by Schmarda and Ehlers.

Family III. PALMYRIDÆ*.

Palmyracea, *Kinberg, Fregatt. Eugen. Resa, Annulat.* p. 1?, 1855; *Carus, Handbuch*; *Schmarda, Neue wirb. Thiere.*

Palmyridæ, *Baird, Journ. of Linn. Soc.* ix.

Palmyrea, *Quatrefages, Hist. Nat. Annelés.*

* This family, in Kinberg's arrangement, as set forth by him in the Voyage of the Danish Frigate 'Eugenia,' was placed amongst the Aphroditacea, and contained the genus *Palmyra*. Carus followed this arrangement, and placed in the family the genera *Palmyra*, *Palconotus*, and *Bhawania*. As far as regarded the name of the family and the genus *Palmyra*, I had adopted Kinberg's arrangement in my contributions to the Aphroditacea in the 9th volume of this

Chrysopetalea, *Ehlers, Die Borstenwürmer*, 1864.

No caruncle. Eyes four or (?) two. Feet uniramose (except in *Bhawania*?). Only one bundle of setæ on each foot. Branchiæ in form of flat setæ (or *paleæ*) disposed in rows, on each side of the back, on each segment.

A. *Body short, with few segments.*

Genus I. CHRYSOPETALUM.

Chrysopetalum, *Ehlers, Die Borstenwürmer*, 1864; *Quatrefages.*

Feet uniramose, furnished with only one tuft of setæ. Head-lobe with four or (?) two eyes, a tentacle, two antennæ, and two palpi. The first segment of body provided with four cirri on each side; the succeeding segments with a cirrus on each side. Body nearly as broad as long. Branchiæ placed on each segment, on each side of body, disposed in a fan-shaped row of flat setæ or paleæ *. Paleæ broad and rather short.

Sp. 1. CHRYSOPETALUM FRAGILE.

Chrysopetalum fragile, *Ehlers, Die Borstenw.* p. 81, tab. ii. f. 3–10; *Quatrefages, Hist. Nat. Annelés*, i. 291.

Hab. Quarnero, *Ehlers.*

Sp. 2. ? CHRYSOPETALUM DEBILE.

Palmyra debilis, *Grube, Beschr. neuer oder wenig bekannt. Annelid. in Wiegmann's Archiv f. Naturg.* 1855, i. p. 90, tab. iii. f. 3–5; *Carus, Handb. der Zool.* ii. p. 434.

Chrysopetalum debile, *Ehlers, Die Borstenwürm.* p. 81; *Quatrefages, Hist. Nat. Annelés*, i. 296.

Hab. Villa Franca, *Grube.*

Genus II. PALEONOTUS.

Paleonotus, *Schmarda, Neue wirbell. Thiere*; *Carus, Handb. der Zool.*; *Ehlers, Die Borstenwürmer*; *Quatrefages.*

Society's Journal. Ehlers, however, has, I think, satisfactorily shown that this family is more nearly connected with the Amphinomacea; and as he has carefully worked out the family and genera which appertain to it, I propose following his arrangement, and bringing now the family Palmyridæ into the group of Amphinomaceæ.

* These branchiæ, composed of flat bristles, or *paleæ*, as they have been called, are considered by Savigny, in the case of *Palmyra*, to be the setæ of the dorsal row of feet. He placed the genus amongst the Aphroditacea, and in this arrangement he has been followed by Audouin and M.-Edwards, Grube, &c., who all take the same view of the case with regard to these appendages.

Head-lobe with a tentacle and two antennæ; palpi wanting. Eyes four. First segment of body provided with two cirri on each side, united at the base. Feet uniramose, with only one tuft of bristles. Body oblong, short. Branchiæ as in *Chrysopetalum*; paleæ short and broad.

Sp. 1. PALEONOTUS CHRYSOLEPIS.

Paleonotus chrysolepis, *Schmarda, Neue wirbell. Thiere*, i. 2. p. 163; *Carus, Handb. der Zool.* ii. p. 434; *Ehlers, Die Borstenwürmer*, p. 80; *Quatrefages, Hist. Nat. Annelés*, i. 297.

Hab. Cape of Good Hope, *Schmarda*.

Genus III. PALMYRA.

Palmyra, *Savigny, Blainville, Cuvier, Lamarck, Audouin & M.-Edwards, Grube, Gervais, Van der Hoeven, Kinberg, Carus, Schmarda, Ehlers, Quatrefages.*

Feet uniramose, each foot with two bundles of bristles. Eyes two *. Head-lobe with a tentacle and two antennæ. No palpi. First segment of body furnished with two cirri on each side, united at the base. Body short. Branchiæ as in the two preceding genera. Paleæ narrow and rather long.

Palmyra aurifera, *Savigny, Syst. des Annélides*, p. 17; *Blainville, Dict. Sc. Nat. art.* Vers, p. 463; *Lamarck, An. s. Vert.* 1st edit. v. p. 306, 2nd edit. v. p. 541; *Cuvier, Règne Animal*, tom. iii. p. 206; *Audouin & M.-Edwards, Ann. Sc. Nat.* tom. xxvii. p. 445, tab. x. f. 1, *Littoral de la France*, ii. 111, tab. iiA. f. 1–6; *M.-Edwards, Cuv. Règn. An.* ed. *Crochard, Annélides*, tab. xviii. f. 1, 1A, 1B; *Grube, Famil. der Annel.* p. 38; *Van der Hoeven, Handb. der Zool.* i. 232; *Carus, Hand. der Zool.* ii. 434; *Ehlers, Die Borstenwürmer*, p. 80; *Quatrefages, Hist. Nat. des Annelés*, i. 294.

Hab. Isle of France, *Savigny*.

Sp. 2. PALMYRA ELONGATA.

? Palmyra elongata, *Grube & Œrsted, Annulata Œrstediana*, p. 25; *Quatrefages, Hist. Nat. Annelés*, i. p. 298.

Hab. Santa Cruz, *Œrsted*.

Grube, in his description of this species, distinctly says, "eyes four." In his description of "*P. debilis*," he affirms it

* Quatrefages, in the definition of this genus, says, "Caput oculis destitutum." Savigny distinctly assigns two eyes as a generic character; and Audouin and M.-Edwards, in their 'Littoral de la France,' distinctly affirm the existence of a similar number, and represent the species *P. aurifera* as possessing two of these organs. M.-Edwards gives a similar representation of them in the figure he gives of this same species in Crochard's edition of Cuvier's 'Règne Animal.'

to have only "two eyes." Yet in his remarks on *P. elongata* (*l. c.*), he says, though it differs from *P. aurata* in the form of the ventral setæ, and in the fan of the paleæ covering the back, it is "numero oculorum *P. debili* similior"! I suspect, as in the case of the genus *Hipponoë* (see remarks under the head of this genus), that the eyes, which are small, have not been properly examined, and that, perhaps, in all the species of this family, the eyes are four in number, as Ehlers has so distinctly represented in his figure of *Chrysopetalum fragile* (*l. c.*), and as Schmarda has also done in the figure he gives of his *Paleonotus chrysolepis* (*l. c*).

B. *Body elongate, with numerous segments.*

Genus IV. Bhawania.

Bhawania, *Schmarda, Carus, Ehlers, Quatrefages.*

Feet biramose. Body long, with many segments. Head-lobe with a tentacle, two antennæ, and two palpi; branchiæ apparently indistinct. The paleæ numerous, narrow, in shape of spines, disposed in rows. Setæ of dorsal feet broad, obliquely truncate, all the setæ articulate. Eyes ——?

I insert this genus with a doubt. The figure of the only known species, represented by Schmarda, is very different in form from any others of the family. The feet are biramose, which is different also from the typical genera. Schmarda and Ehlers, however, place this genus in this family without any hesitation; and though Quatrefages throws some doubt on the subject, he remarks, "it represents in this family the Aphroditeans with numerous segments (such as some of the *Polynoës* and *Sigalion*), which we have seen to differ in as great a degree from the Aphrodites and the Hermiones" (*l. c.* p. 298).

Sp. 1. Bhawania myrialepis.

Bhawania myrialepis, *Schmarda, Neue wirbell. Thiere*, i. 2. p. 164; *Carus, Handb. der Zool.* ii. 434; *Ehlers, Die Borstenwürmer*, p. 80; *Quatrefages, Hist. Nat. Annelés*, i. p. 297.

Hab. Island of Ceylon, *Schmarda.*

A short account of two hitherto nondescript Annulose Animals of a larval character.

Amongst the species of Annelids in the British Museum were deposited two specimens (in spirits) of annulose animals, which I was led to believe were marine. One had no habitat attached to it; the other was from the Philippine Islands, collected by the

late Mr. Cuming. Their general appearance was peculiar, and I was disposed to place them (as Annelids) in a new family, following the family Hipponoïdæ, and to form for them a new genus (a genus of somewhat degraded Annelids) allied in some respects to the Amphinomacea. Like some of the genera belonging to the family Hipponoïdæ, such as *Hipponoë*, they were destitute of caruncle, and had apparently the feet disposed in a single row, whilst, as in *Lophonota*, there was no appearance of either tentacle or antennæ. The branchiæ seemed to be metamorphosed into stellate groups of short setæ placed in rows on the back, where, in the Amphinomacea, the branchiæ are usually placed. Several naturalists to whom I showed these animals at once proclaimed them to be marine; and the general appearance of at least the species figured in Plate V. is such as to lead to that conclusion. Upon more mature examination, however, their resemblance to the larval form of some insects struck me; and in one of the species (Plate VI.), where the head was somewhat more exposed, the larval structure of the organs of the mouth became manifest. By pressing these organs outwards, Mr. Tuffen West was able to make a sketch of them *in situ* (Plate VI. fig. 4); and their resemblance to those of an insect larva struck him forcibly at the time. A more careful examination of the sketch so made tends to show that these are not marine annulose animals, as I was led at first to suppose, but that in reality they must be referred to the larval state of some unknown insects. Their general resemblance, however, to marine animals, and the belief that the structure of no larvæ like these under consideration has ever been published, determined me to bring them before the notice of the Linnean Society; and as Mr. West has given an exact and very good representation of both species along with a good many details, I thought less apology was required.

It is perhaps objectionable to give a generic name to the larval condition of an insect, but in the meantime, till we know something more of the perfect insect to which they belong, and the true nature of these creatures themselves, I have given to them the provisional name of THETISELLA.

The genus may be characterized thus:—a row of tubercles or feet on both sides in a single row, upon which are implanted a tuft of strong setæ. *Two* (?) pairs of hooks or feet on the ventral surface near the anterior extremity, on the two first tho-

racic segments (?) A row of short spines disposed in a stellate-formed group along each side of the dorsal surface at a distance from the tubercles or feet. Dorsal surface rough externally.

In the Collection of the British Museum there are two distinct species, both of which I have figured, and of which I beg to append a description. The names, of course, are only provisional.

Sp. 1. THETISELLA FLAVA. (Plate V. figs. 1–11.)

Body of animal of a yellowish colour, (exclusive of setæ) about 1 inch in length, about half as broad as long, stout or convex on the dorsal surface. It is composed of 12 segments, which are very distinctly seen on the dorsal (fig. 1), but very indistinctly marked on the ventral surface. Mouth placed on the ventral surface, but there are no traces of eyes or antennæ. The dorsal surface is rough and covered with very fine granular-looking bodies, interspersed among which are numerous small calcareous spicula (figs. 9 & 11). The ventral surface (fig. 2) is quite smooth, armed near the anterior extremity with *two* pairs (a pair on each side) of curved hook-like bodies, pointing outwardly, like the feet of larvæ (fig. 7), and having along the centre a series (about 6 or 7) of rather large circles surrounded on the outer edge by a raised rim. Apparently there is no depression in the centre of the ring, and no appearance of hooks or setæ. The feet (?) are disposed only in one row. A bundle of setæ or bristles are implanted on the tubercles, which project straight and are rather short and stout; they are rather numerous, stout, flagelliform, rather long, cylindrical for about one half their length, then suddenly and abruptly terminating in a long, slightly curved, capillary, sharp point (fig. 6). Interspersed amongst these there are several flagelliform setæ in each tuft, shorter than the others, with a swollen portion in the middle of the lower and stouter portion (fig. 8). The organs which, at first view, I considered metamorphosed branchiæ consist of a tuft of short spines placed on the dorsal surface of each segment, on each side, about half way betwixt the centre of the back and the feet, and are disposed in a stellate form. Each tuft consists of about from 5 to 7 flattish setæ terminated by a short curved spine (figs. 4, 5).

Length about 14 lines, including the setæ on the feet; breadth about 7 or 8 lines.

Hab. Unknown (Old Collection, *Mus. Brit.*).

Sp. 2. THETISELLA OLIVACEA. (Plate VI. figs. 1–4.)

Body of animal of an olive-colour, short, nearly as broad as long. Setiferous tubercles of feet long, and terminating in a sharp point. The setæ are implanted at various distances upon the tubercles, and present exactly the same character in form as those in *flava*, with a number of the shorter and stouter swollen setæ interspersed among them (Plate VI. figs. 5 & 6). The setæ altogether are nearly double the length of those of *flava*, and the swollen portion of the shorter setæ are very distinctly visible to the naked eye. The segments of the body are about 11 in number, distinct on the back, but indistinct underneath. The dorsal surface (fig. 1) is very rough, with numerous minute granulations. The ventral surface (fig. 2) is smooth and armed on the anterior portion with *two* pairs of similar hook-pointed organs as in *flava*, while the rings in the middle line are distinctly hollow or depressed in the centre. The organs which I at first considered metamorphosed branchiæ are disposed in the same manner as those of *flava*, the setæ or filaments being placed in a stellate form, but having the points straight instead of being curved. The proboscis in this species is partially extruded, and exhibits a fringe of short fleshy tentacles, about nine in number, the centre one being cruciform at the apex (fig. 4) (*vide* description of organs of mouth in explanation of plate).

Length about $\frac{1}{2}$ an inch; breadth of body about 3 lines, but (including setæ) nearly $\frac{1}{2}$ an inch.

Hab. Philippine Islands, *Cuming* (*Mus. Brit.*).

EXPLANATION OF THE PLATES.

PLATE IV. *Setæ of feet of Amphinomidæ.*

Fig. 1 *a*. Seta of dorsal row of feet of *Amphinome rostrata*. × 50 diameters.
Fig. 1 *b*. Seta of ventral row of ditto. × ditto.
Fig. 2 *a*. Dorsal seta of *Amphinome Jukesi*. × ditto.
Fig. 2 *b*. Ventral seta of ditto. × ditto.
Fig. 3 *a*. Dorsal seta of *Hermodice carunculata*. × ditto.
Fig. 3 *b*. Ventral seta of ditto. × ditto.
Fig. 4 *a*. Dorsal seta of *Eurythoë complanata*. × ditto.
Fig. 4 *b*. Ventral seta of ditto. × ditto.
Fig. 5 *a*. Dorsal seta of *Eurythoë clavata*. × ditto.
Fig. 5 *b*. Ventral seta of ditto. × ditto.
Fig. 6 *a*. Dorsal seta of *Lirione Rayneri*. × ditto.
Fig. 6 *b*. Ventral seta of ditto. × ditto.
Fig. 7 *a*. Dorsal seta of *Chloeia tumida*. × ditto.
Fig. 7 *b*. Dorsal seta of ditto, without teeth or serræ. × ditto.
Fig. 7 *c*. Dorsal seta of ditto, of the whole length. × 20 diam.

Fig. 7 *d*. Ventral seta of ditto, of *Chloeia tumida*. × 50 diam.
Fig. 8 *a*. Dorsal seta of *Chloeia parva*. × ditto.
Fig. 8 *b*. Ventral seta of ditto. × ditto.

PLATE V. *Thetisella flava*.

Fig. 1. Dorsal aspect. Animal enlarged two-thirds.
Fig. 2. Ventral aspect. Ditto.
Fig. 2 *a*. Natural size.
Fig. 3. Lateral aspect. × two-thirds.
Fig. 4. Tuft of (?) branchial setæ along with a portion of the skin on which they are seated. × 25 diam.
Fig. 5. A single (?) branchial seta. × 50 diam.
Fig. 6. One of the setæ of the feet. × ditto.
Fig. 7. One of the hooklets on under thoracic surface. × ditto.
Fig. 8. One of the setæ which are found interspersed amongst the ordinary setæ of the feet. × ditto.
Fig. 9. Portion of the dermal surface of dorsal portion of the body, showing the granular structure of the skin, with small round masses and minute calcareous spicula in the intermediate portion. × 100 diam.
Fig. 10. Portion of the lateral surface of body, × two-thirds, and one of the little knobs on its surface. × 25 diam.
Fig. 11. The calcareous spicula interspersed among the dermal scales shown in fig. 9. × 400 diam.

PLATE VI. *Thetisella olivacea* and *Hipponoë Cranchii*.

Fig. 1. *Thetisella olivacea*, dorsal view. × two-thirds.
Fig. 2. *Thetisella olivacea*, ventral view. × ditto.
Fig. 2 *a*. *Thetisella olivacea*. Natural size.
Fig. 3. *Thetisella olivacea*, lateral view. × two-thirds. Similar knobs are present in this species as in the last (Plate V. fig. 10), but they were too much covered with the bundles of setæ to be shown in the figure.
Fig. 4. Head and organs of the mouth, showing the close correspondence of these organs in this animal with those of several larvæ of insects. Supposing these animals to be larvæ, *a*, *a*, are the antennæ; *m x*, *m x*, are the maxillæ, with a large inwardly projecting lobe on each, arising from the antebasal point; this lobe has four tactile appendages exactly like a similar process in the larva of the *Clothes Moth*, and two short setæ: *l b r*, is the labrum; *l b*, the labium; *l t*, *l t*, labial tentacles, composed of a basal joint and two setæ.
Fig. 5. One of the setæ of feet. × 50 diam.
Fig. 6. One of the setæ interspersed among the others. × ditto.
Fig. 7. *Hipponoë Cranchii*, dorsal aspect. × 3 diam.
Fig. 8. *Hipponoë Cranchii*, ventral aspect. × ditto.
Fig. 8 *a*. *Hipponoë Cranchii*. Natural size.
Fig. 9. Head, as seen from beneath. × 25 diam.
Fig. 10. Head, as seen from above. × ditto.
a, antennæ; *p*, palpi; *t*, tentacle; *p*, *s*, *c*, cirrhi.
Fig. 11. Branchial tuft.
Fig. 12. Prehensile organ on ventral surface. × 25 diam.
Fig. 13. One of the setæ of prehensile organ. × 50 diam.
Fig. 14. One of the setæ of feet. × ditto.